

REMARKS

The present amendment is submitted in response to the Office Action entered on February, 21, 2006. Claims 51-64 are pending in the present application. The Examiner finally rejected claims 51-60, 63, and 64 as obvious under 35 U.S.C. §103 in view of Vaartstra (US 6242165 B1) in combination with Smith, Jr. et al. (US 5863348). Claim 61 was rejected as obvious in view of the combination of Vaartstra, Smith, Jr., and McConnell et al. (US 4917123). Claim 62 was rejected as obvious in view of the combination of Vaartstra, Smith, Jr., McConnell et al. and Shortes et al. (US 4341592). Applicants herewith submit a Request for Continued Examination pursuant to 37 C.F.R. § 1.114 with this Amendment as the requisite submission. With entry of this Amendment, Applicants amend independent claim 51. Reexamination and reconsideration are respectfully requested.

Independent claim 51 is amended to recite in part “a vapor supply line for supplying the solvent vapor into the processing vessel, a vapor heater for heating the solvent vapor flowing through the supply line, a temperature sensor for measuring a temperature of the vapor heater, and an overheat monitoring sensor for monitoring the overheat of the vapor heater” as well as “means for controlling the solvent heater and the vapor heater based on the temperature measured by the temperature sensor while monitoring the overheat of the vapor heater through the monitoring sensor, and controlling the main heater, to heat the solvent vapor and the substrate within respective temperature ranges.”

Therefore, the present amendment adds several new elements to the solvent vapor supply section, including a vapor supply line, a vapor heater, a temperature sensor and an overheat monitoring sensor. Furthermore, the means controls the vapor heater as well as the solvent and main heaters. Support may be found throughout the specification, such as for example, at ¶165 of the Specification (p 41) as well as Figs. 16 and 20.

In certain embodiments of the present invention, the additional vapor heater may be beneficial in controlling the temperature of the solvent vapor. The solvent heater heats the solvent vapor, but the solvent vapor may change in temperature or even condense into a liquid on the route

between the solvent heater and the processing vessel. Therefore, the vapor heater may provide for additional temperature adjustments and thus ensure the solvent vapor enters the processing vessel at an optimal temperature and in a gaseous state.

Claim 51 is patentable over the cited art because neither Vaartstra nor Smith, Jr. disclose a distinct vapor heater in addition to a solvent heater and a main heater as recited by claim 51. Vaartstra only discloses two heating elements – a mixing manifold equipped with heating coils and a heating mechanism in a pressure vessel (see Figure 2).

Similarly, Smith Jr. only discloses two heaters – Xylene heater 216 and elixir heater 222. Neither of these heaters heats the main chamber of Smith Jr., therefore neither of them reads on the main heater of the present claims. Furthermore, the Xylene and elixir heaters of Smith Jr. are not comparable to the solvent and vapor heaters of the present claims, because they heat up two completely different solutions and are thus are not related in the manner required by the claims for the solvent and vapor heaters. In other words, the heaters of Smith Jr. are not part of the same solvent vapor supply section and one of them does not heat vapor passing through a vapor supply line, the vapor having been generated and heated by the other heater.

Similarly McConnell does not disclose the configuration of heaters recited by claim 51. McConnell does not disclose a main heater. Furthermore, McConnell does not disclose a vapor heater. McConnell disclose only one heater for heating gas which is supplied to the main processing chamber (heater 160 in Fig. 1).

Shortes does not disclose the heaters of claim 51 either. Shortes discloses only a single heater that heats the substrate. Therefore, Shortes does not disclose a vapor heater or a solvent heater. On the contrary, Shortes teaches against the present invention because it explicitly states that the gas which is sent into the chamber of the substrate should not be heated at all before it enters the chamber. See col. 13, ll 34-42: "...the ozone molecules in the ozone containing gaseous chamber should be maintained at an ambient temperature (unheated)..."

Applicants respectfully submit that for the above discussed reasons claim 51 and claims 52-64 which depend from it are patentable in view of the cited art. Furthermore, claims 51-64 are patentable because the cited art does not disclose means for controlling the various heaters in order to ensure that “a mixed gas molecular layer of a mixture of molecules of the solvent vapor and molecules of the process gas is formed on the substrate to alter the resist film into a water-soluble substance” as recited by claim 51. The novelty of the means clause was discussed in detail in previous Office Action responses and similar arguments are applicable to the present claims. To avoid repetition, Applicants will not restate these arguments but merely respectfully reassert their belief that the means clause provides an additional basis for the novelty of the present claims.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5790 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. 199372002501.

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Respectfully submitted,

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